

NOTES ON THE LIFE AND WORK OF JAMES BRIGHAM MCFARLIN, FLORIDA BOTANIST

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ABSTRACT

James Brigham McFarlin contributed to Florida botany and his work provided a rare glimpse into the diversity that once existed in the central part of the state three-quarters of a century ago.

RESUMEN

James Brigham McFarlin contribuyó a la botánica de Florida y su obra dio una ojeada rara a la diversidad que existía en Florida central hace 75 años.

James Brigham McFarlin (1901–1969) was among a small group of botanists whose work contributed to a better understanding of Florida's flora through explorations and collections during the first half of the 20th Century. Unlike J.K. Small and other prominent botanists who visited Florida to collect and explore, Jim McFarlin (Fig. 1) was a Florida resident. He used his familiarity with the area—particularly the Lake Wales Ridge in the central peninsula—his enthusiasm and a keen eye to collect and record specimens that he regarded as new species or new forms of known species as well as species that were previously undocumented in the state. Apart from a brief mention in Wunderlin et al. (2003), nothing appears to have been written about McFarlin's life and work. This paper is an attempt to fill that gap.

Jim McFarlin was born November 24, 1901, in New York City. He attended Mercersburg Preparatory School in Mercersburg, Pennsylvania and went on to attend Syracuse University, where he received a degree from the New York State College of Forestry in 1925. He then joined his parents, Robert Roy and Grace B. McFarlin, in Winter Haven, Florida. The elder McFarlins had moved to Winter Haven in 1918 (Burr 1974), where the elder McFarlin had purchased land and operated a citrus grove. After moving to Winter Haven, Jim McFarlin was president and manager of Winter Haven Ornamental Nurseries east of Winter Haven (City Directory 1928). However, he was not a particularly successful businessman and survived at times only through his father's financial assistance (M. Bryant, pers. comm.).

His primary interest at that time was botany, not the nursery business. He followed that interest from 1930 to 1933 with an assistantship from the University of Michigan, where he pursued a doctorate. His graduate assistant stipend was \$600 a year (Cherie Peterson, pers. comm.). His thesis work involved exten-

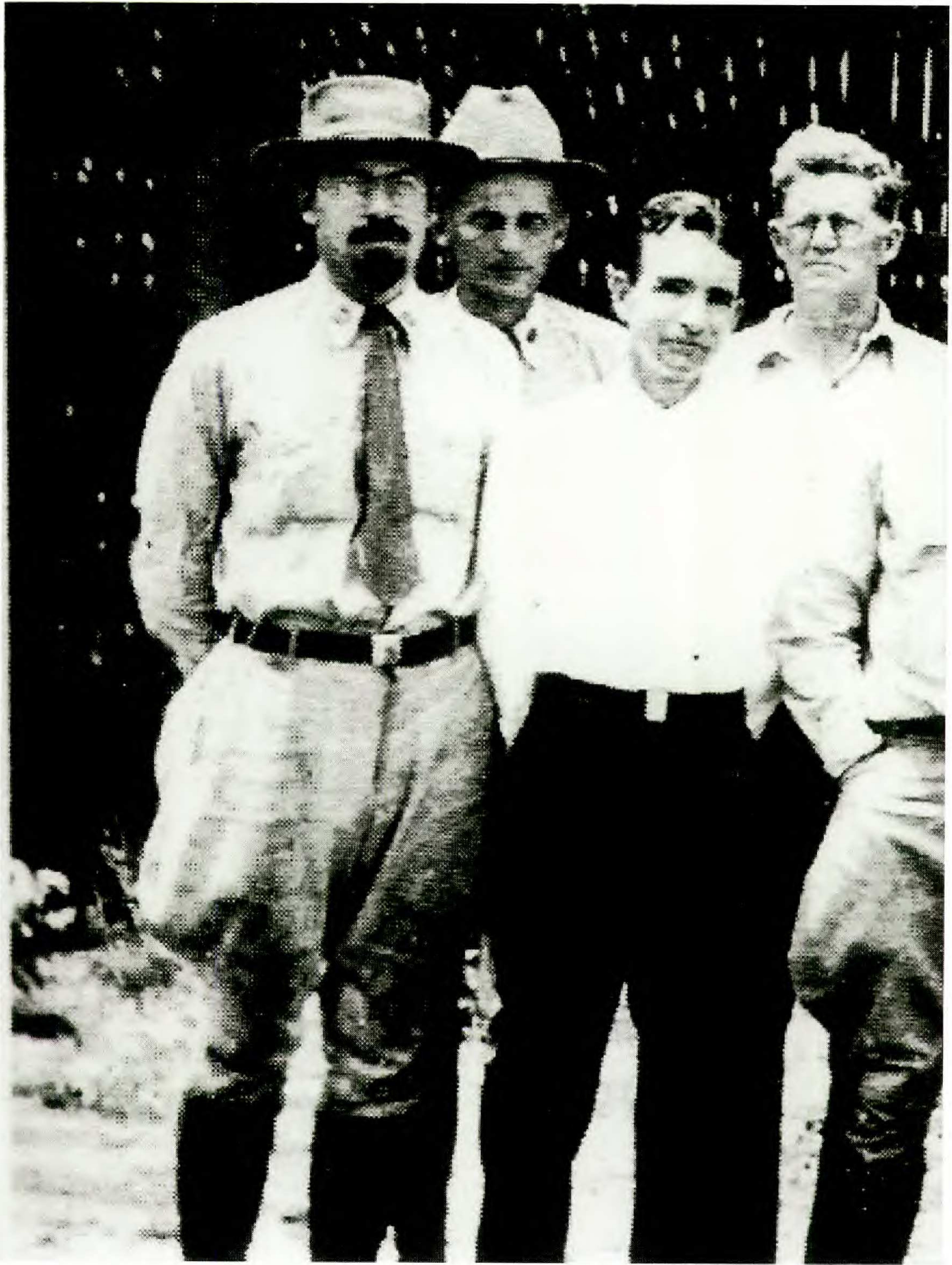


FIG. 1. James Brigham McFarlin (front left).

sive collecting in Polk County and some surrounding areas in connection with the preparation of his dissertation (McFarlin 1935). No degree was awarded and his assistantship was not renewed after 1933.

By 1933 McFarlin was married with one child, unemployed, and in the

depths of the Depression. He found temporary work with the U.S. Department of the Interior's Civilian Conservation Corps. He was employed initially in the Chippewa National Forest, Cass Lake, Minnesota. In 1934 he was transferred to the CCC camp near Sebring, Florida, where work was underway to develop Highlands Hammock State Park, one of Florida's first state parks. McFarlin became the botanist at the Highlands Hammock Botanical Garden and Arboretum and served on the Executive Committee of its Botanical Garden Association (Altvater 1966). He was recommended for that position by Harley Harris Bartlett, then chairman of the Department of Botany and director of the Botanical Garden at the University of Michigan (letter, 17 February 1934, to Harry Lee Baker, Florida state forester). Dr. Bartlett had been a member of McFarlin's graduate committee at Michigan.

McFarlin was responsible for preparing some of the early interpretative materials for Highlands Hammock State Park (McFarlin 1939). Some of his field notebooks containing notes on specimens he collected during his field work in Florida were found around 2000 during an inventory of historical artifacts at the park, but their importance was not recognized until 2005. The pages in the notebooks are being digitally copied for use in a planned exhibit at the park's CCC museum (D. Smith, pers. comm.).

McFarlin lived in the Sebring area until at least 1942, but later moved back to Winter Haven (Burr 1974) and lived there until moving to Bradenton in 1949, shortly after the death of his father in October 1948. In Bradenton, probably because of the inheritance he received from his father's estate, he was able to resume his career in the nursery business. He operated Begonia Gardens there until his death on March 10, 1969 (Anonymous 1969). According to his obituary, he and his wife Marie, who he married in 1927, had a son, James R. McFarlin, a daughter, Sarah Wells, and four grandchildren.

McFarlin began his botanical collection as early as 1923, according to correspondence between 1924 and 1935 with J.K. Small (Florida State Archives), from whom he sought information and advice on specimens he collected and for whom he collected specimens. McFarlin's early collections were deposited with the herbarium at Syracuse University. Later collections involving about 5,000 specimens were sent to the herbaria at the University of Michigan and the University of Florida (McFarlin 1935). Some of his specimens have been deposited in the U.S. National Arboretum (Gann et al. 2002) and other locations.

In addition to vascular plants, McFarlin was also interested in mosses and liverworts. He at one time had prepared displays of some of his specimens in mahogany cases (M. Bryant, pers. comm.). He eventually donated his bryological collections to the University of Florida and to the National Museum of Canada in Ottawa (K. Perkins, pers. comm.). That collection supported a publication (McFarlin 1937) in which he concluded that the local moss population in Polk County, was "relatively depauperate of species." McFarlin collected in south

Florida as well and was noted as having collected the first specimens for a handful of species in that region of Florida (Gann et al. 2002).

McFarlin's major botanical exploration, which resulted in the collection of the bulk of the specimens, occurred in 1930 and 1931 while a graduate student. McFarlin collected throughout Polk County, a large (5,300 sq. km.) county located in the central part of Florida. At the time he was collecting the area was still relatively undeveloped. He made repeated collecting trips to several locations, including Marion Creek near Haines City, Lake Deer near Winter Haven and Kissengen Spring near the Peace River south of Bartow.

McFarlin never received his doctorate, but the reasons are unclear. According to the University of Michigan's Transcript and Certification Office, he was enrolled as a graduate student from 1930 to 1933 (M. Henderson, pers. comm.). In a September 1, 1935, letter to J.K. Small he wrote of having completed his dissertation and informed Small he was ready to submit it to his doctoral committee. He wrote on April 29, 1935, to E B. Mains, one of his professors at the university and was told that McFarlin should first submit his thesis to John H. Ehlers, chairman of his committee. Yet there is no record of his dissertation's ever having been received at the University of Michigan (E. Voss, pers. comm.). Although McFarlin's university transcript is unavailable because of claimed privacy concerns, the Certification and Transcript Office agreed to examine the transcript and said it does not indicate why Mr. McFarlin did not complete his degree. (M. Henderson, pers. comm.).

McFarlin's 1935 dissertation, however, has survived. A copy of the original document was completely retyped by Margaret L. Gilbert, a biology professor at Florida Southern College in Lakeland, Florida, in 1961, with duplicates given to several individuals and institutions within the state. The thesis is a tightly written work of 228 pages (as retyped), the bulk consisting of an enumeration of the vascular flora arranged by family. Each species is reported by scientific name, synonyms, and at times common names, with a brief statement of habitat and location. Nearly all entries also carry McFarlin's field collections numbers for the species. A key is given to the species of genera with more than a single species.

As a supplement to the main body of the thesis, McFarlin provided a statistical tabulation of its contents: 159 families, 560 genera, and 1131 species. He then recorded 131 species he regarded as weeds, and 53 species as introductions. He gave further complete tabulations for the species of "high pine land," "scrub," "high hammock," "flatwoods," "prairie," "low hammock," "swamp," "bayhead," "cypress head," "marsh," "lakes," "streams," "clay pits," "bogs," "shallow ponds and drainage ditches," "shores," and "sandy beaches." He followed this with lists of "epiphytes," "parasites," 11 and "saprophytes."

McFarlin recorded in the last pages of his thesis what he believed to be 2 species new to the United States, 7 new to Florida, 7 species new to science, 7 new varieties, 14 new forms, and 3 new combinations.

McFarlin's 1935 thesis and his supporting specimens (mostly those at the University of Florida) have provided clues for further botanical exploration. His work, though unpublished and little known, offers a rare glimpse of the former distribution and abundance of many species that are now much less common in central Florida.

A few examples are worth mentioning. McFarlin reported collecting the first U.S. specimen of Hairlike Spikerush (*Eleocharis nana*), a species that is still considered rare and has been collected from only two other Florida counties (Wunderlin & Hansen 2000). However, the collection of this specimen underlines one of the problems with reviewing McFarlin's work. The reported collection site (Lake Lynch near Lake Alfred) is unknown and appears neither on modern maps nor on maps from that period, such as the 1927 Polk County Soil Survey that he cited in his dissertation. Several other sites where McFarlin reported collecting regularly, such as Highland Gully near Lakeland and Faulkner Hammock near Bartow, are similarly undocumented as to their locations other than being near some present-day city. In an undated letter to E.B. Maines, McFarlin refers to a map "showing all of my collecting locations," but no such map was included in any of the known copies of his doctoral dissertation.

In some cases, McFarlin found species beyond their known ranges in Florida at the time, such as the terrestrial orchid Wild Coco (*Eulophia alta*). Until then the species was known only from the Big Cypress Swamp area, according to Small (1933).

McFarlin claimed (McFarlin 1935) to have collected a number of specimens that either represented species previously unknown to Florida or entirely new species. In the case of the new species for Florida, it appears possible that some of the claimed discoveries, such as Nash's blue-eyed grass (*Sisyrinchium brownei*) or *Ludwigiana brevipes*, may have been misidentified since modern summaries of Florida's botanical life, notably Wunderlin and Hansen (2000), do not include them. However, others such as *Verbena bonariensis* and *Commelina benghalis* are known to exist in Florida and are actually quite common.

McFarlin's only published new species was a small-leaved sand holly that he named *Ilex pygmaea* (McFarlin 1932). He was unaware that the tree had been named previously, by Small in 1924, and his name is now considered a synonym of the scrub holly, *Ilex opaca* var. *arenicola*. All but one of the six other new species mentioned in his unpublished thesis had no nomenclatural standing and were largely overlooked. The exception, which has recently received attention, is the pink-flowered Scrub (McFarlin's) Lupine, which McFarlin named *Lupinus aridorum*. This plant was collected by other workers as early as 1900 (U.S. Fish and Wildlife Service 1993) but McFarlin was the first to consider it a separate species. McFarlin did not describe the species. It was not described until years after his death by Beckner (1982), who also knew the plant in the field, recognized its distinct features, and gave it proper treatment. Though

related to *Lupinus westianus*, a similar species of the Florida panhandle, it is quite separate in its range and is clearly an endemic of the central peninsula. McFarlin described the plant as “infrequent to locally abundant,” but with development of the area it has become quite rare, and is now classified as endangered by the state and federal agencies (Coile & Garland 2003). As a result, the future survival of this species remains a concern. The only protected populations of the plant occur at a federal preserve in Eagle Lake south of Winter Haven and at a county park in the Orlando area (Kane 2003). Unprotected populations persist in a handful of other sites in Central Florida. Establishment of other protected populations—including one site near Winter Haven where McFarlin did much of his collecting—has been proposed (Kane 2003) and would seem to a fitting tribute to McFarlin’s work.

McFarlin commented on other endemic plants of the central ridge. Another species he believed to be new was a small-leaved variety of grape that is widespread in the scrub habitat. He gave it the name *Muscadina pygmea*. Later observers have noted the plant, but have never given it formal status by publishing its name and description. Recently McFarlin’s original specimens have been tracked down (in the Smithsonian Institution) and a paper is in press to give it formal recognition as a variety of the muscadine grape, *Vitis rotundifolia* (D.B. Ward, pers. comm.).

McFarlin made interesting observations on the distribution of known endemic species in the scrub habitat in Polk and adjacent counties, relatively little of which remains (Christman 1988). McFarlin’s comments were prescient regarding this trend. For instance, he noted that the presence of Turkey Oak (*Quercus laevis*) was a general indication of land that was suitable for citrus, which is the crop that most frequently displaced scrub and sandhill habitat. Comparing his comments (McFarlin 1935) with those of present day observers helps us to understand how dramatic that change has been. McFarlin described the beargrass, *Nolina brittoniana*, as “our most common species inhabiting the scrub and inland sand dunes,” the crucifer, *Warea amplexifolia*, as “locally abundant,” the scrub plum, *Prunus geniculata* as “widespread,” the morning-glory, *Bonamia grandiflora* as “frequent in the sandy soil of the scrub,” and the milkweed, “*Asclepias curtissii*,” as “frequent in scrub.” Now they are rare and classified as endangered or threatened (Coile & Garland 2003; Wunderlin & Hansen 2000).

He left another legacy that was probably unintended. Although McFarlin recognized the problems of invasive exotic species—his manuscript mentions Ceasar Weed (*Urena lobata*), Australian Pine (*Casuarina esquistifolia*) and others—he was responsible for some local introductions of other invasive plant species. Through his years in the nursery trade, McFarlin was responsible for the introduction of the orchid tree, *Bauhinia variegata*, into Winter Haven (Burr 1974). This tree is classified as a Class I invasive species (Florida Exotic Pest Plant Council 2005). While operating the botanical garden at Highlands

Hammock, McFarlin was apparently responsible for the introduction of the Flax Lily (*Dianella caerulea*), which continues to be a management problem in the park today (A. Hine, pers comm.).

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